LOCAL APPLICATIONS IN THE LINAC CONTROL STATION

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INTRODUCTION

The local applications are a method of allowing different local stations to have different functionality, even though they share the same system kernel code. Local applications are close loops, and are activated once every n 15HZ linac cycles, by the local stations system code. When activated, a local application will check if there is any need for it to take some action, and return to dormant mode if action is not needed. Local applications are written in Pascal (on the VAX or the Macintosh) and are downloaded to the local stations. A special application page (E) is used to monitor the activity of the local applications.

LIST OF LOCAL APPLICATIONS

Closed loops in Alvarez Linac
GRAD   Auto-gradient regulation of rf amplitude in Alvarez Linac.
PHAS   Auto-phase logic regulates intertank phase in Alvarez Linac.
QUAD   Auto-reset of tripped pulsed quad power supplies in Alvarez Linac.
PRES   Pre accelerator source pressure regulation.
EMIT   Beam emittance probe runner assist.
HVPS   Auto-reset for pre accelerator high voltage power supplies.
CROB   Crobar trip recovery. It slowly returns the gradient to previous value if both the crobar and the permanent inhibit were triggered.
DRIV   Resets the driver if a trip occurred.
PINH   Handles permanent inhibit without crobar by turning down the gradient if the condition prevails.

Closed loops in Linac upgrade
TEMP   Water temperature regulation for klystron systems in Linac upgrade.
COND   Klystron conditioning program used in Linac upgrade.
FREQ   Adjust VCO to keep cavity resonant to track temperature variations.
KOND   Minimal klystron auto-reset support.
SRMD   Emulates some SRM protocols--used in NTF to supply data to node 61C.
SPEC   Spectrometer regulation to keep field constant.
STAT   Accumolates Klystron test statistics.

Closed loops at A0 test station
TMPZ   Water temperature regulation for klystron systems used in A0 test area.
KRMP   Original Reconditioning program for testing at A0. Ramps the klystron power to a target level, respecting poor vacuum or trip conditions.

Closed loops for Acnet support
AERS   Interface program to supply Acnet alarm messages to the AEOLUS alarm handler on the Vax.
FTPM   Fast Time Plot Manager supports that protocol for collecting data for Acnet plotting.
AAUX   Acent Aux supports network utility and diagnostic functions for Acnet nodes.
HMBG   Acnet-designed memory dump protocol.

Miscellaneous
GATE   Gateway for support of SRM memory copy.

NETM   Network Monitor watches for station losing connection to network and tries to bring it back on-line.
ECHO   Echo Server for UDP port#7.
DAC0   Regulates ferrite bias supply low energy offset (MRRF)
DAC1   Regulates ferrite bias supply hi energy offset (MRRF)

References

[1] S. Shtirbu, B. Goodwin, in code documentation for all the specific loops.
[2] B. Goodwin, Local Applications Table, personal documnt, 8/28/93.
[3] B. Goodwin, Local Application Parameters, personal document, 12/12/91.